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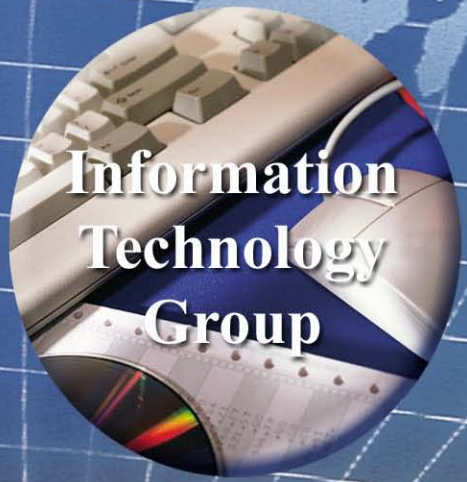

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“Impact of Corrosion on Ground Vehicles, Field Site Operations”

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Corrosion Prevention and Control (CPAC) Programs

- Prime contractor for US Army and US Marine Corps programs for over five years
  - Management support of the programs, to include vendors
  - Life cycle support: corrosion prevention techniques, processes, compounds, and controls

TARGET: Tactical Wheeled Vehicles and Ground Support Equipment

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CPAC Program Elements

- Corrosion prevention training for the design engineers
  - New corrosion resistant materials
  - New design considerations
  - New finishing techniques
- Controlled humidity protection
  - Fully humidity controlled project
  - Humidity controlled system for individual pieces of equipment
  - Environmentally sealed bags
- New paint and application technologies
  - Water-based CARC and primer

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CPAC Program Elements

- Development of environmentally friendly corrosion prevention techniques
  - New compounds being developed
- Research and Development
  - Find and test new/emerging corrosion-oriented technologies
- Repair initial stages of corrosion
  - Category II repairs (surface preparation/prime/paint)
- Application of corrosion preventive compounds
  - Reduce the progression of corrosion

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Corrosion Condition Assessments

- Assess all assets during every service period
- Use PDAs
- Download to database
  - Centralized
  - Web access

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Program Accomplishments

- CPC application
  - Ft. Polk; Ft. Hood; Schofield Barracks; Okinawa, Japan; Camp Carroll, South Korea; Ft. Bragg, Ft. Stewart, Charleston Seaport, and special deployment locations (Ft. Lewis, Kentucky Bluegrass Station)
  - Treated 64,773 pieces of equipment since FY 2007
- Surface Preparation and Repairs
  - 6,442 pieces of equipment since FY 07
  - Surface preparation, prime, and paint at Ft. Polk; Ft. Hood; Schofield Barracks; Okinawa, Japan; Camp Carroll, South Korea; Ft. Stewart, and Charleston Seaport

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Schofield Barracks, HI

- The **FIRST** corrosion center
- Eight bays
  - Four inspection
  - Four CPC application
- Production ~ 60 pieces per day

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Mobile Corrosion System

- Developed as a result of 9/11 events

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Ft. Hood, TX

- Assets available: 10,000 pieces
- Fixed Facility
- One Mobile System

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Ft. Bragg, NC

- Assets available: 8,000 pieces
- Fixed Facility
- One Mobile Team

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Ft. Polk, LA

- Assets available: 5,000
- Fixed Facility
- One Mobile Team

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Schofield Barracks, HI

- Assets available: 5,500 pieces
- One Mobile System
- Team covers:
  - Active Army Units
  - National Guard Units
    - On the lot storage - Bags

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Torii Station, Okinawa

- Assets available: 1,055 pieces
  - Added Patriot Missile system to requirements in Nov 09
- One Mobile System
  - Adding one additional Mobile Team when funding becomes available

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Camp Carroll, South Korea

- Assets available: 4,200 pieces
  - Warehouse of BII added
  - Anticipate additional personnel when Patriot Program starts
- One Mobile System
- Also covers CHP system at Camp Casey
- Anticipated Two additional Mobile Systems for Patriot Program

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Charleston Seaport, SC

- This site is ideal for various types of corrosion prevention
- Assets available: 500 LBE pieces + 3 APS ships per year = 9,000 pieces
- Site will incorporate:
  - Controlled Humidity Storage
    - Project design in process
  - CPC application
  - New paint technologies
  - On the lot storage - bags

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Ft. Stewart, GA

- Assets available: 7,000 pieces
- One Mobile System

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Ft. Richardson, Ft. Wainwright, AK

- Corrosion test started June 09/follow up assessment in July 10
  - 1,500 pieces at each site (750 treated/750 untreated)
  - Test to determine rate of progression for corrosion
- Three Mobile Systems

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AMCOM Corrosion Support

- Provided assessment documentation to support Patriot missile systems in Japan and South Korea
- Training took place Nov 09/Production started Nov 09
- Okinawa is the first site. Once process is proven, then possibly move to all sites in South Korea.

Other Sites

- Discussions/Plans/MOA's – being developed (customer initiated):
  - FORSCOM sites
  - SOCOM sites
  - Additional deployment locations

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Deployment Support

- Tactical Vehicle PM and Stryker PM contact us for CPC application to equipment being deployed.
- Usually 2-14 day notification before ship date
- Quick reaction teams developed using Part Time personnel
  - Ship teams and equipment to required site
- Typical locations:
  - Blue Grass Station, Lexington, KY
  - Ft. Lewis, WA
  - Beaumont, TX
  - Gatesville, TX

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National Guard & Reserves

- National Guard
  - Hawaii
  - Ft. Drum
- Reserves
  - Puerto Rico
  - Ft. Drum
  - Ft. McCoy
  - Ft. Polk

CPAC Locations

Fixed and Mobile System Sites

1

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THE CORROSION SERVICE TEAM 4-STEP PROCESS

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Step 1:
Clean/Wash Equipment

Remove salt, dirt, deposits, oil, grease, etc. using fresh water, hoses, pressure washers, cleaning compounds/detergents as available. This critical first step of cleaning should be accomplished by the custodians of the equipment IAW TB 43-0213 prior to induction into the Corrosion Service Team procedures.

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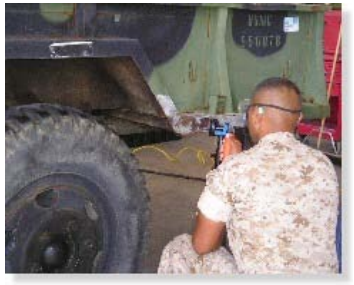

Step 2:
Surface Preparation /Paint

When a CARC-painted surface is scraped, scratched or damaged, the resistance to chemical agents is lessened and it becomes susceptible to corrosion. Depending on the location and size of the area damaged, spot painting may be required. This spot painting is carried out by the Corrosion Service Teams IAW TB 43-0242, WD-CARC Spot Painting.

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Step 3: Preservation

Preservation of the cleaned and inspected vehicle is the third step of the CPAC process. Preservation helps to protect equipment and parts by providing coatings, anti-seizes, sealants and water displacing CPC compounds. Preservatives are used after equipment cleaning, before and after deployment and when an extended period of equipment storage is anticipated. Soy or Canola-based Cortec Ecoline Long Term Rust Preventative is the primary CPC applied during preservation efforts. Dehumidified storage can also be utilized in conjunction with these preservation procedures.

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Step 4: Inspection/Assessment

A thorough inspection of equipment is the fourth step in the CPAC process. The material condition of equipment must be checked for corrosion, coating damage, trapped water and contaminated surfaces. The frequency of corrosion inspection should increase with the operational tempo, severity of the environmental conditions and importance of the component/vehicle. A PDA is utilized in conjunction with a corrosion assessment checklist to capture the overall corrosion condition of the vehicle/equipment . This checklist categorizes/identifies the stages and levels of corrosion. This data is then downloaded to a website for referral as necessary. Refer to TB 43-0213, which identifies the stages and levels of corrosion.

Summary

- The Army CPAC program has grown and has the capability to continue to grow
- New requirements are continually being received for additional Teams
- TACOM/TARDEC is the government agency responsible for this Program